

Materials Science

## THE LUMINESCENT PROPERTIES OF SPARKLERS

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Sparklers are common, easily attainable fireworks for children and adults alike. We found that the common procedures for making sparklers did not work well. Our original hypothesis was that the water content of the completed sparkler was the most important characteristic controlling its luminescence. A secondary problem was maintaining the proper consistency of cornstarch during sparkler construction. Sparklers are constructed by dipping a brass wire rod in a thick mix of cornstarch containing potassium chlorate and various metal powders. Addition of glycerol to the corn starch water base mix was found to dramatically improved the ease of sparkler formation with out affecting luminescence. Under- and over-drying was found to produce less luminescent sparklers.